

CURATIVE AND PREVENTATIVE ASPECTS OF
BLINDNESS IN PAPUA, NEW GUINEA.

By

D.F. Lloyd

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" CURATIVE AND PREVENTATIVE ASPECTS OF BLINDNESS
IN PAPUA NEW GUINEA. "

Paper read to the Overseas Aid Meeting of the
Australian National Council of and for the Blind, at
the Australia Hotel, Melbourne, 16th April, 1982, by

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L775
copy me

PREVENTATIVE

CURATIVE & PREVENTATIVE ASPECTS OF BLINDNESS IN PNG -- A STRATEGIC APPROACH.16th April 1982 .

I have been asked by the Overseas Aid & Prevention of Blindness Group of the ANCB to put forward a proposal for the

curative & preventative aspects of blindness in PNG. In simple terms, "How can you help blind people in PNG ?"

This paper will deal with a strategic approach to the medical aspects only.

First, let me quote from Sir John Wilson's Preface to the book, "World Blindness and its prevention " (Oxford Press, The International Agency for the Prevention of Blindness ,1980),

" Freedom from needless blindness is not just a question of privilege, but of human rights. In the final analysis, what we appeal to is the sense of value built into our contemporary civilization. "

I am the Senior Specialist Ophthalmologist for PNG & as such I am the co-ordinator for ophthalmic medical work in PNG. I am based in Port Moresby & have only been there 4 months.

For this reason I have not only researched previous published material relevant to PNG including the 1978 WHO preliminary survey of PNG, but also other WHO publications & Maj. Gen. Cullen's report of 1981, and I have also had long discussions with many people in PNG ranging from Government administrators & economists Hospital Superintendents, and senior and junior staff members of the Faculty of Medicine, University of PNG. I visited Dr. George Parsons in Medang and shared & exchanged ideas & with his help went through all his previous correspondence on this topic.

Dr. Parsons is the only other Specialist Ophthalmologist in PNG at the moment, and has worked there for the last 11 years. Dr Parsons is in agreement with the proposals that follow. I have, then,

(drawn together the



drawn together the work of many people over many years, and then placed this into the present medico-political environment of PNG today.

Prior to my starting work in PNG, I worked in East Africa for nearly 6 years, doing rural mobile work in Kenya, & regularly visiting S. Sudan and E. Zaire. I have also attended mobile eye clinics in Tanzania and India, & have visited Eye Hospitals in Nigeria & Afghanistan. I state this only to dismiss it, because I do not think any pattern I have seen or read about elsewhere can be reduplicated in PNG.

Why ?

Because PNG is unique.

Therefore, we need a plan uniquely designed for PNG.

In this fairly small country there are a little over 5 (1) million people speaking over 700 languages separated by multiple mountain ranges, rivers, swamps & sea. Political independence in 1975 has naturally had a marked effect on the country. The University was founded in 1971, which was the year the expatriate population reached its peak (50,000). The expat population is now 30,000, and falling.

Statistically, the incidence of eye disease and blindness is unknown, and considering the geographical difficulties of getting to the people I would consider a full scale survey a poor use of funds. I know from many sources that there is a large backlog of unoperated cataracts in the Highlands, and I think we should act now on what we know. Most blindness seen by Dr Parsons, Dr Dethlefs & myself is caused by treatable cataracts, so I am proposing a CURATIVE program. Trachoma is only a minor problem in PNG in terms of causing blindness, & does not justify a PREVENTION program all of its own. In PNG the prevention program should develop with the curative program.

(PNG is divided by ...



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PNG is divided by mountains, rivers, and Islands into 20 Provinces. (2)

In 1980 a population census was taken and the population for each Province was published. (3)

This census showed that the total population was just over 3 million, & is in keeping with a projection made in 1974. The growth rate is 2.1% per annum and a population of over 5 million can be expected by 1998. The ophthalmic needs will grow with the population. (4)

When the census figures are added up, it shows that over 40% of the population live in the Highlands. (5)

Morobe Province, east of the Highlands, is the most densely populated province. Dr. Korimbo is an Ophthalmic Registrar who worked at Lae, the Provincial Capital, & is at present doing a year's post graduate study at Adelaide and is due to sit his final Specialist examination (Master of Medicine, Ophthalmology), in Port Moresby at the end of this year, and when & if he passes will be the first National to obtain a Specialist qualification that is fully recognised by the Government. He will be returning to work in Lae & the population density in that Province justifies that.

Eastern Highlands Province is the second most densely populated province. The Provincial capital is Goroka, which has a Base Hospital with 250 beds, 3 operating theatres, 5 specialists, but no ophthalmologist.

Another way of getting the right perspective is to look at the major towns. However 91% of the population don't live in the towns, but in villages. But most of the villages are linked to a big town in some way, except in the Sepik & Fly River basins. (6)

Now let's add the road system, such as it is. Of course (7)

(the limiting factors ...

the limiting factors are the mountains and the rivers, but an all weather road has been built linking the major highland towns. Secondary roads off the major routes would not be all weather roads and to get around, a 4 Wheel Drive Toyota would be necessary. There is an all weather road linking Lae to Goroka in the Highlands, but the road linking Medang to Goroka is NOT all weather and it may be years before it is. I'm leading up to saying that we should put an Ophthalmologist with a 4WD Toyota at Goroka,

but first let me leap forward to the year 2,000. (8)

The LONGE RANGE PLAN is a sort of a see saw equation arrived at by balancing population against geography. We can expect the roads to be a little better in 18 years but not all that much. The solution is air travel, though it is expensive. The aerial services in PNG are one of the densest in the world. At the moment there are 481 registered air strips.

So by combining population densities, road networks, and aerial networks, I would suggest a minimum of 6 Government employed National Eye Doctors by 2,000. That would be one per 800,000 people, which I trust you would agree is not being too indulgent or overgenerous. Bangladesh already has one ophthalmologist per 500,000 & Japan has one per 21,000.

I would envisage that each Ophthalmologist, called a Specialist Medical Officer ^{or S.M.O} in PNG, would do mobile work in his own area by air or Toyota or both, & that each has under him 4 or 5 "Auxiliary Ophthalmic Workers", who would be responsible to that particular Regional S.M.O. An attempt to get an "Auxiliary Ophthalmic Worker" program going was made by Dr Parsons in 1975 but the Union concerned made demands for Medical Board approval, increased financial rewards and a job description that they become specialists in their own right, and not just 'mere specialists' to the eye doctor. The project has never got any further than that piece of daunting correspondence, & I wouldn't recommend that we try again just

(yet, but do ..

yet, but do think we should retain the idea for the future, so have included it in the 2,000A.D. picture. What is needed where medical workers are so isolated from one another is that ALL Medical Students, Health Extension Officers, Aid Post Orderlies & Nurses be given more training in eyes so that everybody's expertise is improved. For this reason, I will be later requesting text books & teaching materials.

So that is the LONG RANGE PLAN ; - but how do we get there??

At present there are 2 Registered Specialists in PNG (10) & we split the country for mobile work the way shown. We each have $1\frac{1}{2}$ million potential patients & clearly it is a farsical situation. Dr Korimbo returns to Lae next year & then we'll each (11) have 1 million people to cover (though I will need travelling expense money for Dr Korimbo for next year, because it hasn't been budgetted for because he is out of the country). Dr Korimbo's position in Lae already exists, so the next step

is to base an expatriate SMO at Goroka with a (12) 4WD Toyota AND funds to travel by air when required. He would need a set of instruments, of course. That is my first major proposal.

* And the next step, perhaps in 3 years time, would (13) be to put another expat SMO at Mt Hagen, with a Toyota, to cover the western $\frac{1}{2}$ of the Highlands.

IDEALLY, before putting the SMO at Mt Hagen I would (14) like a survey of the incidence of cataracts done by a paramedical worker or a Med Student. It could be done fairly easily and moderately cheaply because there are two population groups already being studied in the Highlands, and we could attach an ophthalmic survey onto the existing research, but that would be best done after an SMO has been stationed at Goroka. When the time is right I might ask you for some money !

(FINALLY, sometime ...

6 ~~4/10~~

FINALLY, ... sometime put an SMO at Rabaul and replace (15)
expatriates with Nationals as they become available. I will be
organising the postgraduate training of post-graduate National
Drs specialising in Ophthalmology. Before they sit their final
specialty exams in PNG they are required to spend one year working
overseas.

Before we can discuss how to implement the above ideas, I (16)
must quickly discuss the PNG pyramid of Health Care.

One side is PREVENTIVE , and the other side of the
base is CURATIVE. The apex of the pyramid is of course the Department
of Health, & it naturally overshadows the rest of the pyramid. There
are 4 Regional Hospitals and they are each scheduled in the Long
Range Plan to eventually have an Ophthalmologist attached to them.
You see that there ^{are} 38 Provincial Hospitals & Major Health Centres—
—these are the hospitals Dr Parsons and I visit on our mobile visits
though clearly it is impossible to visit all of them with only two
of us at present. I have some influence up the pyramid one step,
& down two steps, but have no influence(except through the medical
students I teach and the post graduate Drs I train) on the lower
3 tiers.

I've presented to you the LONG RANGE PLAN - but how (8)
do we get there, & how can you help?

- 1/ I must not present a 20 year plan to the Government, *not all at once!*
- 2/ I MUST proceed only one step at a time --- and the first step
is to get an SMO at Goroka.

~~16/8/81~~ 7/.

HOW ? One way would be through the PNG Pyramid of Health Care. Naturally, the Gov. have their system of Administration, & in the Health Dept this comes under the National Planning Office. The mechanism therefore exists, but it is sometimes very difficult getting the cogs of the wheel moving.

Another way is to get into the Health Care Pyramid by getting the permission of the Technical Assistant Advisory Committee to approve the project and then getting into the Pyramid through the side door instead of through through the top !!!

You can, in fact, bypass both these systems for small recurrent expenditure, or for small non-recurrent expenditure.

However, for larger amounts, or for long term projects, it may be desirable to create a Branch of the

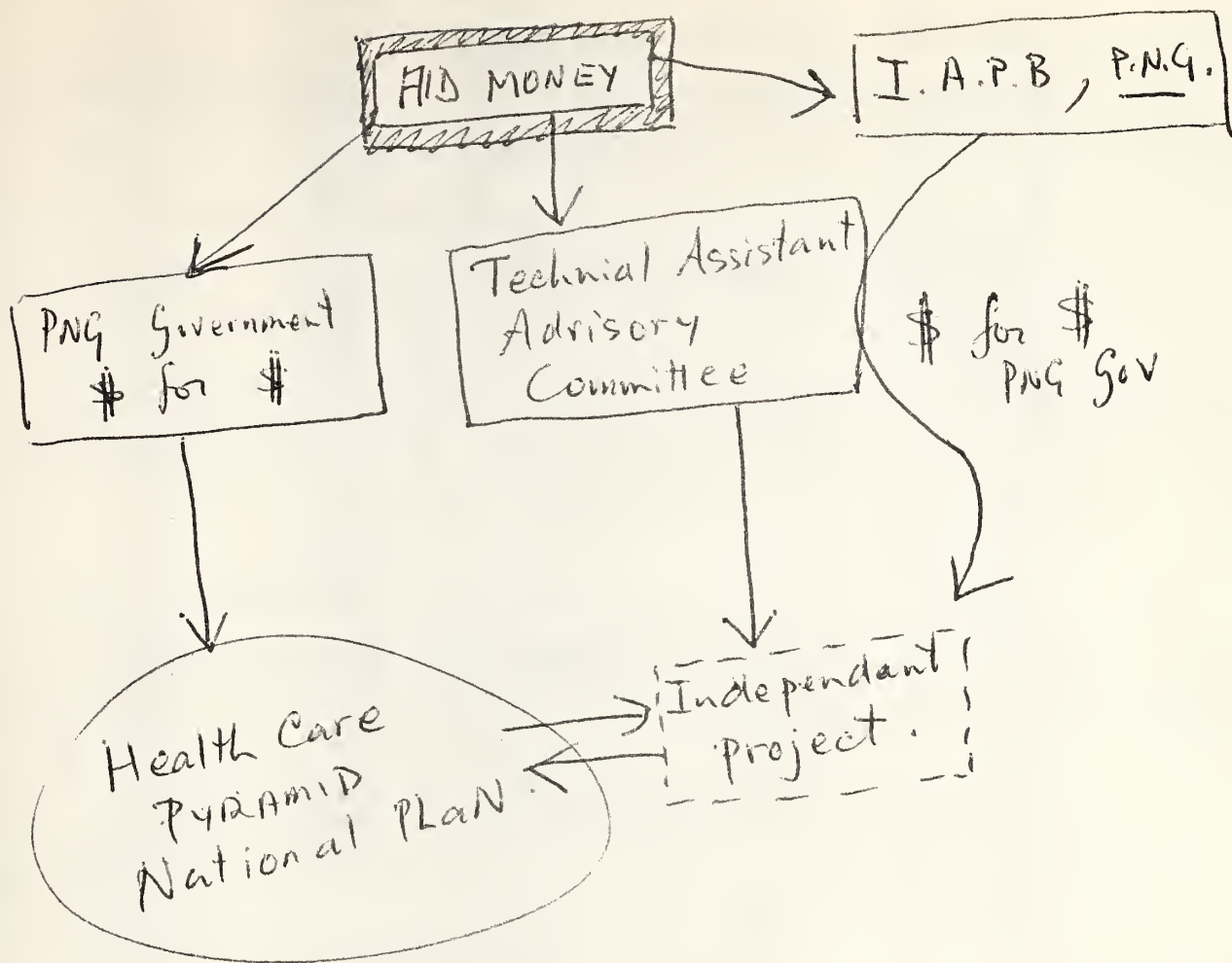
International Agency for the Prevention of Blindness, of which Sir John Wilson is the President. Since its inception it has spread to many countries, but not yet to PNG.

So there are 3 ways I suggest to you that these proposals could be implemented:-

1/ Through the Gov. Health Plan

2/ Through the Technical Assistant Advisory Committee

3/ By setting up a PNG Branch of the International Association for the Prevention of Blindness & implementing the above through that organisation.



I'm not sure how many expatriate doctors I will be able to get into the country - I suspect only a couple - for Goroka & Mt Hagen. Thereafter I think the Gov will expect me to replace the those expats by/Native Doctors whom I have trained. If you wish to help me - and I do need your help - you could help me at this point. Help me to be more efficient by funding a secretary for me, & helping me with my teaching by providing a good library of Ophthalmic text books & some good audio-visual teaching material. These latter expenses could be channelled through the Technical Assistant Advisory Committee, & some of the funds could legitimately bypass the System altogether eg, books, teaching materials, instruments

Now I will summarise my major recommendations, & attempt a Budget estimate.

SECONDLY, I request money for an ophthalmic library, audio-visual teaching material, ^{and} a slide projector & screen, ie material that will help me in teaching the medical students & post graduates. (18)

Under this category, I would also request money to purchase more equipment for the Eye Department at Port Moresby General Hospital, and for small instrument sets for Base Hospitals without them.

THIRDLY, I ask you to help me to become a more efficient Administrator by financing the building and furnishing of an office for me at Port Moresby General Hospital, and the provision of an expatriate secretary for 3 years.

The first two of these proposals are purely medical, and would cost about A.\$ 22,000 (including Capital & Recurrent Expenditure) spread unevenly over 5 years.

The last proposal - an office and a secretary for me - would cost about \$ 174,000, spread over 3 years, with about \$89,000 of that being Capital. Of that, the house & the car which I recommend purchasing would be retrievable, but could continue to be used for the Ophthalmic work in some way.

Perhaps the Office & the Secretary sound unrelated to blind people to you, but it is going to be out of that office that duly filled in N. P.1 & N.P.2. Gov. Forms will emanate that will get us our Gov approved SHO at Goroka & Mt Hagen, & it is from my secretary that notes for the Medical students and graduate trainees will come forth.

Thus I am asking for a total of about Aust \$ 294,000 spread over 5 years. The rough breakdown of the figures is shown in the 'Estimate Budget Proposal 1982 to 1986 ' sheet. (19)

And with that Budget Estimate I close. Thankyou for giving me the opportunity of speaking.

* * * * *

11
FIRSTLY

FIVE YEAR MEDICAL PLAN

1. Put an expat S.M.O. at GOROKA in the next 18 months.
2. Ophthalmic survey of the 2 study populations in the HIGHLANDS, in two years time.
3. Put a second expat S.M.O. in the Highlands, at Mt. Hagen, if the survey justifies it, in three years time.

At the end of five years, do a major reassessment.
? AID could probably be reduced to a bare minimum.

Secondly.

Ophthalmic library, audio-visual teaching
Material, slide projector & screen;
Extra instruments for Port Moresby General Hospital.
Small instrument sets for Base Hospitals.

Thirdly.

An office inside Port Moresby General Hospital.
Expatriate Secretary for 3 years.

- salary
- house
- car

1982

	CAPITAL	RECURRENT
<u>BOOKS</u>	\$ 2,500	
Audio Visual teaching material	\$ 1,000	
Slide Projector + screen	\$ 500	
Stationary + Stensils	\$ 2,000	
Misc. stamps	\$ 500	
<u>INSTRUMENTS</u> P.M. Hospo	\$ 20,000	
<u>OTHER BASE HOSPITALS</u>	\$ 5,000	
<u>OFFICE</u> at P.M.	\$ 30,000	
General Hospital and furnishings		
<u>SECRETARY</u>	\$ 6,000	
Salary	\$ 1,000	
Airfare	500	
Settling-in allowance	\$ 10,000	
CAR	\$ 1,000	
Registration + insurance	\$ 40,000	
Running expenses	\$ 3,000	
<u>HOUSE</u> furnishings	\$ 1,000	
insurance		
	\$ 124,000	

TOTAL \$124,000

1983

	CAPITAL	RECURRENT
SECRETARY Salary travelling allowance car insurance		\$ 6,000 \$ 2,000
SMD GORDKA SALARY INSTRUMENTS 4WD TOYOTA "Hi-Lux" Travelling / maintenance	\$ 25,000 \$ 20,000 \$ 10,000 \$ 5,000	
P.M. General Hospital		\$ 1,000
	\$ 60,000	\$ 9,000

TOTAL \$ 69,000

1984

	CAPITAL	RECURRENT
Secretary - salary travel / insurance		\$6,000 \$2,000
SHO GOROKA		\$3,000
EYE SURVEY IN HIGHLANDS	\$5,000	
P.M. General Hospital		\$1,000
TOTALS	\$5,000	\$12,000

TOTAL \$17,000

1985

	CAPITAL	RECURRENT
Secretary Salary petrol/insurance		\$6,000 \$2,000
Smo GOROKA		\$3,000
Port Moresby Gen Hosp		\$3,000
Mt HAGEN Smo (Repeat of GAROKA plus \$1,000 inflation)	\$61,000	
	\$61,000	\$14,000

TOTAL \$75,000

1986

	CAPITAL	RECURRENT
G AROKA SMO		\$ 3,000
MT HAGEN SMO		\$ 3,000
LAE SMO		\$ 1,000
MADANG SMO		\$ 1,000
P.M. SSMO		\$ 1,000
		\$ 9,000

Total \$ 9,000

19

TOTAL CAPITAL EXPENSES.

1982 \$ 124,000

1983 \$ 60,000

1984 \$ 5,000

1985 \$ 61,000

1986 \$ _____

TOTAL \$ 250,000

TOTAL RECURRENT EXPENSES19821983\$ 9,0001984\$ 12,0001985\$ 14,0001986\$ 9,000TOTAL\$ 44,000

21

YEARLY TOTALS [CAPITAL plus RECURRENT]

1982	\$ 124,000
------	------------

1983	\$ 69,000
------	-----------

1984	\$ 17,000
------	-----------

1985	\$ 75,000
------	-----------

1986	\$ 9,000
------	----------

TOTAL	\$ 294,000
-------	------------



Area

EYE
DISEASE

Disease incidence undno w

460,000 square kilometres.

blindness / mainly cataracts / trauma / infections / preventable

population 3,006,799 (1980).

717 languages.

geographic "superlatives",
transport fragmentation

ROADS.

AIR. RIVER/OCEAN.

Independance → 1975.

University of P.N.G. founded 1971.

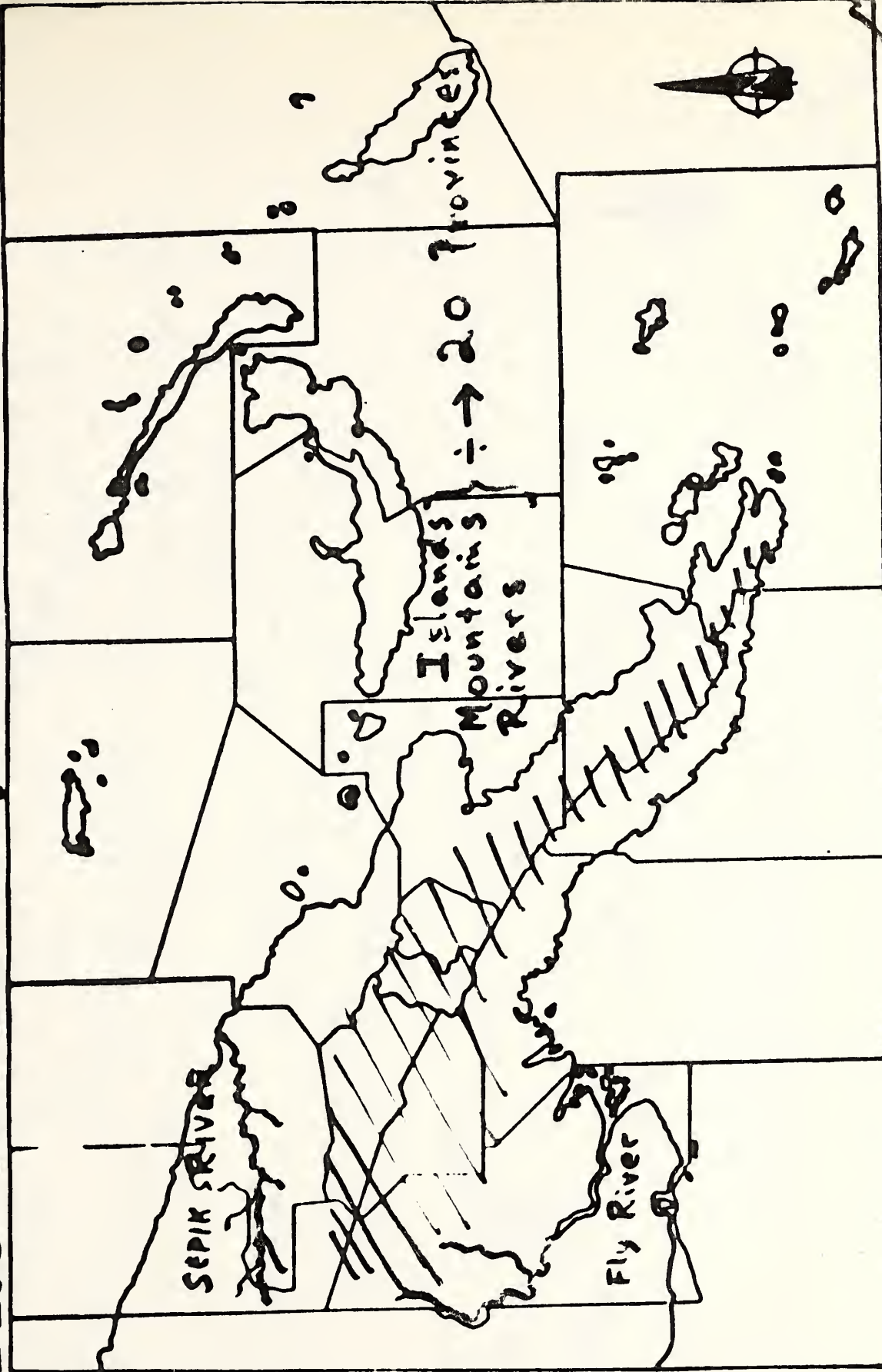
Political: Bureaucratic / Democratic / Free Enterprise.

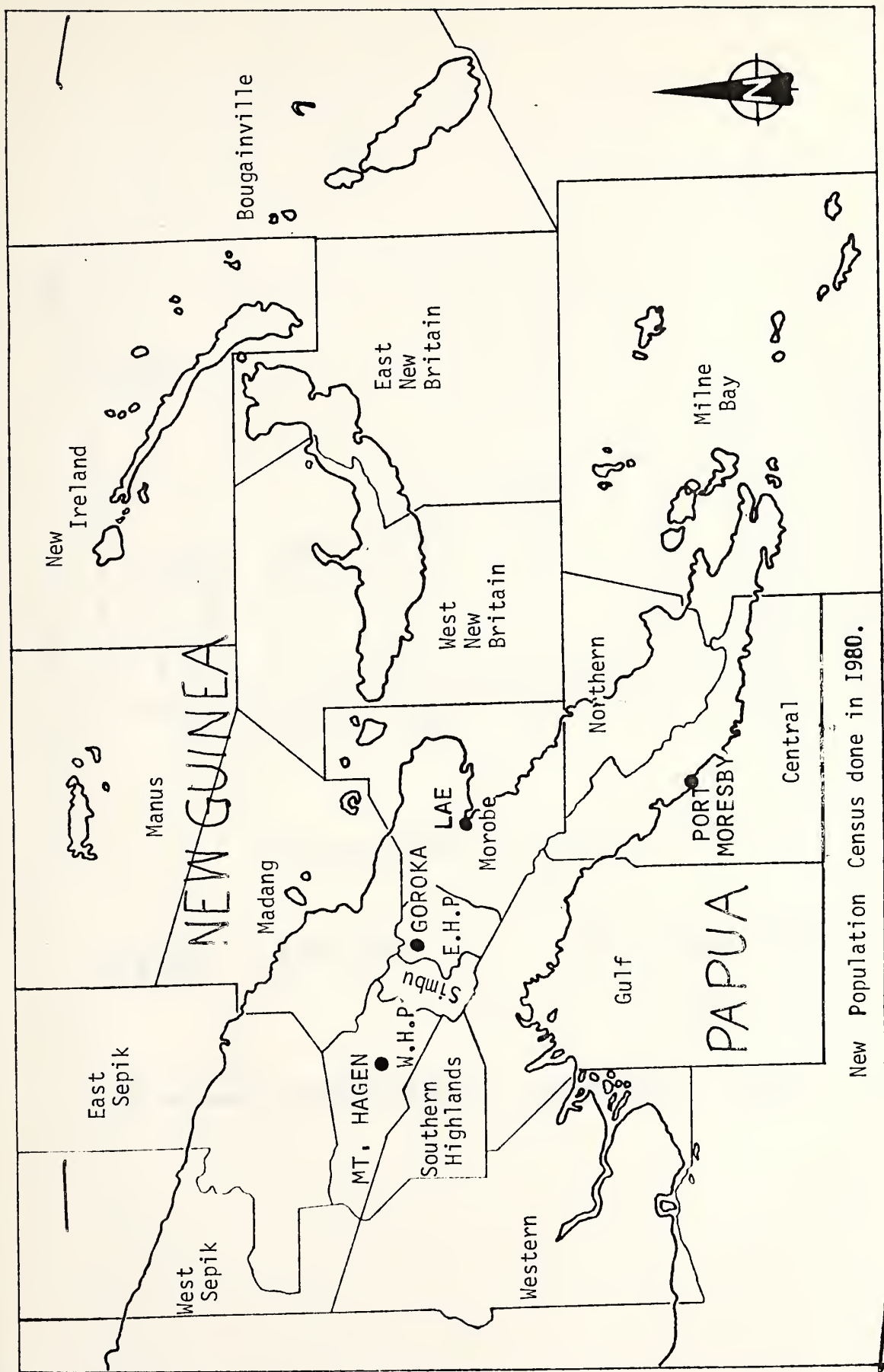
Expat population peak 1971 ~~50,000~~

1982 expat popul. - 30,000 and falling.

ACT NOW
ON WHAT
WE KNOW!

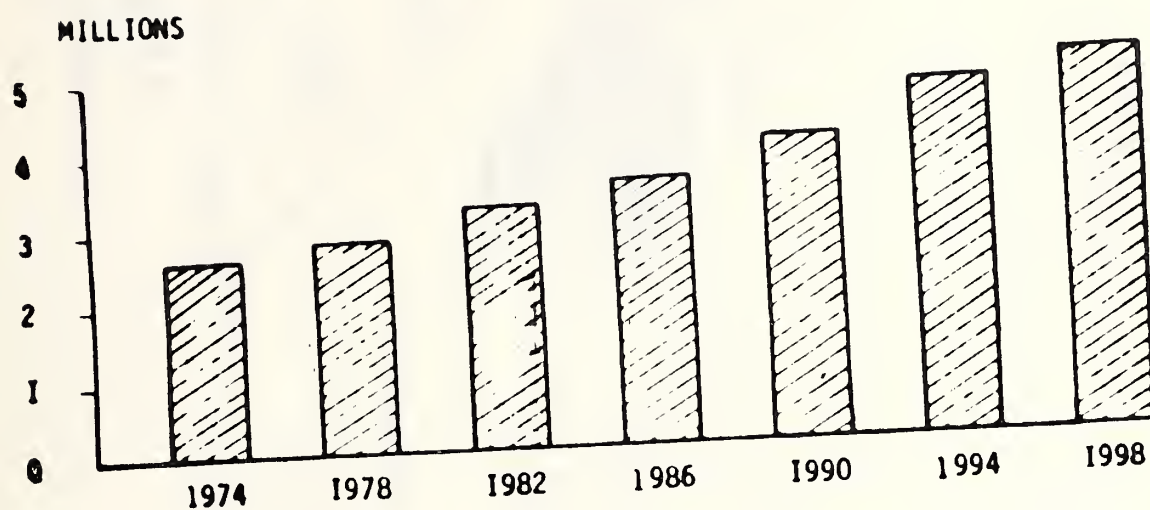
PROVINCES Papua New Guinea





New Population Census done in 1980.

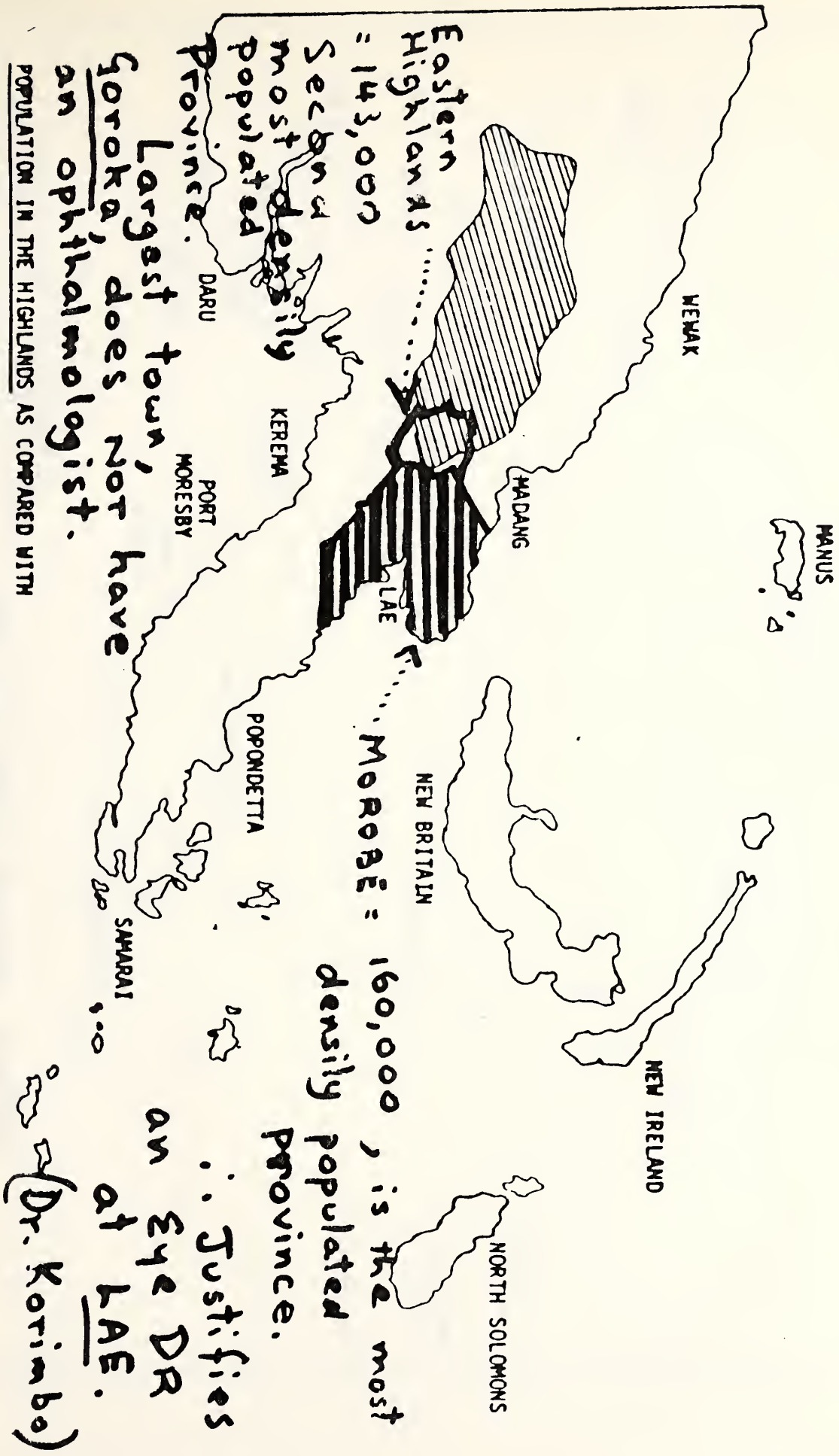
POPULATION GROWTH.



POPULATION GROWTH WILL INCREASE BY ONE THIRD
BY 1998.

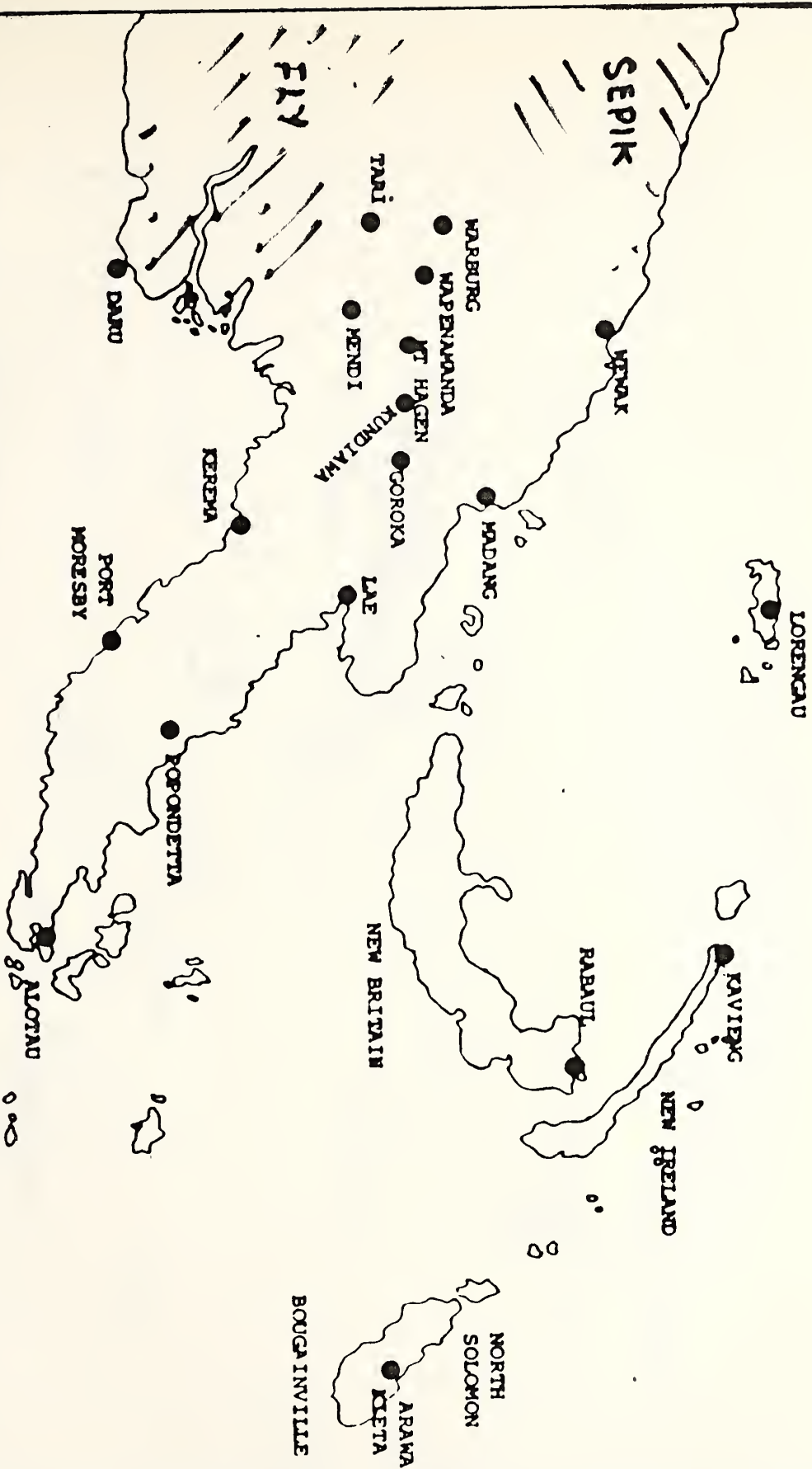
1980 CENSUS = 3,006,799 National
30,000 expats.

Annual average growth rate 2.1 %



"40% THE POPULATION OF PNG LIVES IN THE HIGHLANDS".

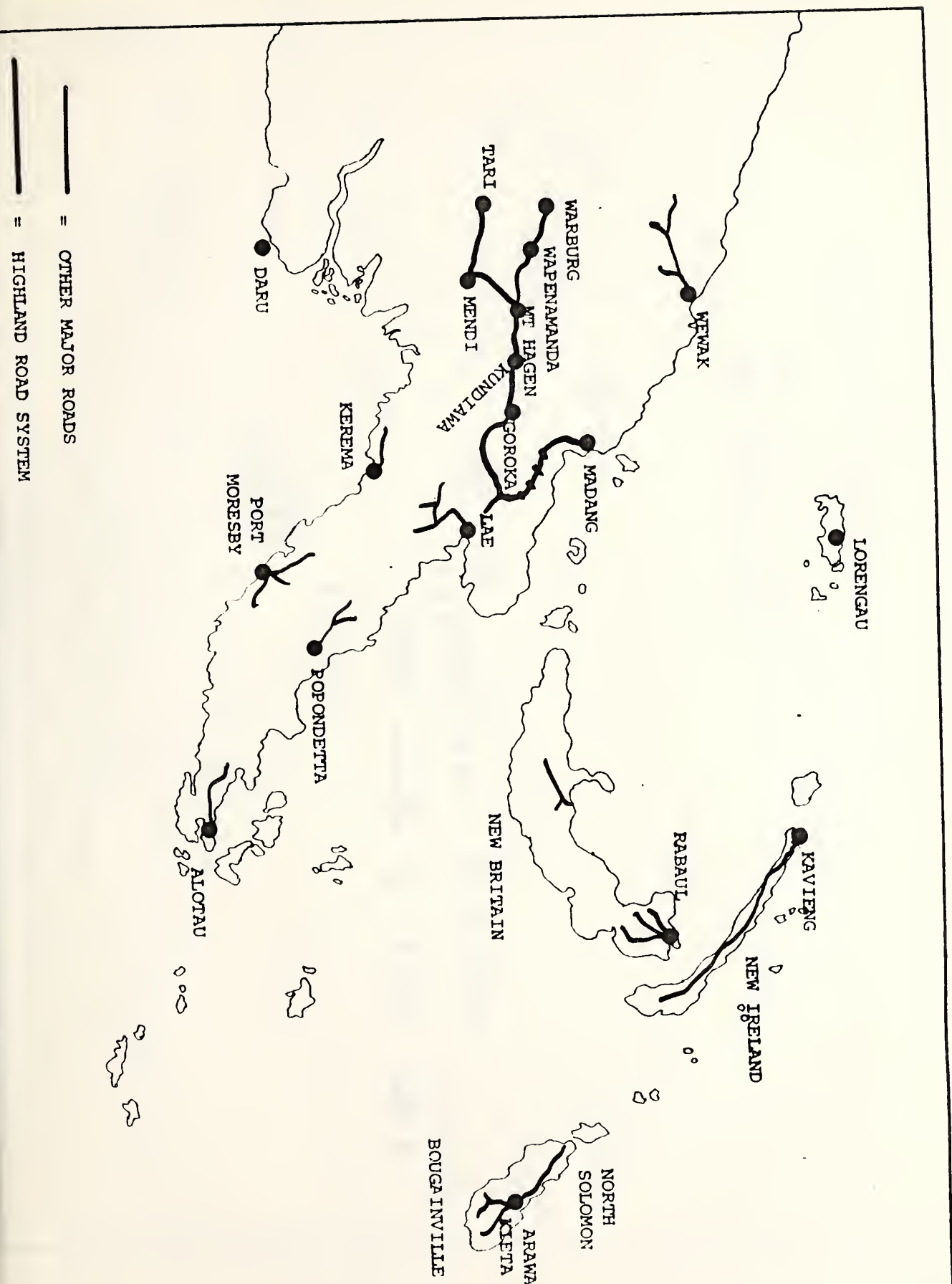
PAPUA NEW GUINEA



LARGEST TOWNS ●

There are 10,000 major villages = 91% of population.

PAPUA NEW GUINEA



— = OTHER MAJOR ROADS

- - - = HIGHLAND ROAD SYSTEM

PAPUA NEW GUINEA



Population 5 million.

AIM → 6 Eye Dr's.

LONG RANGE PLAN

Population vs. geography.

SIX

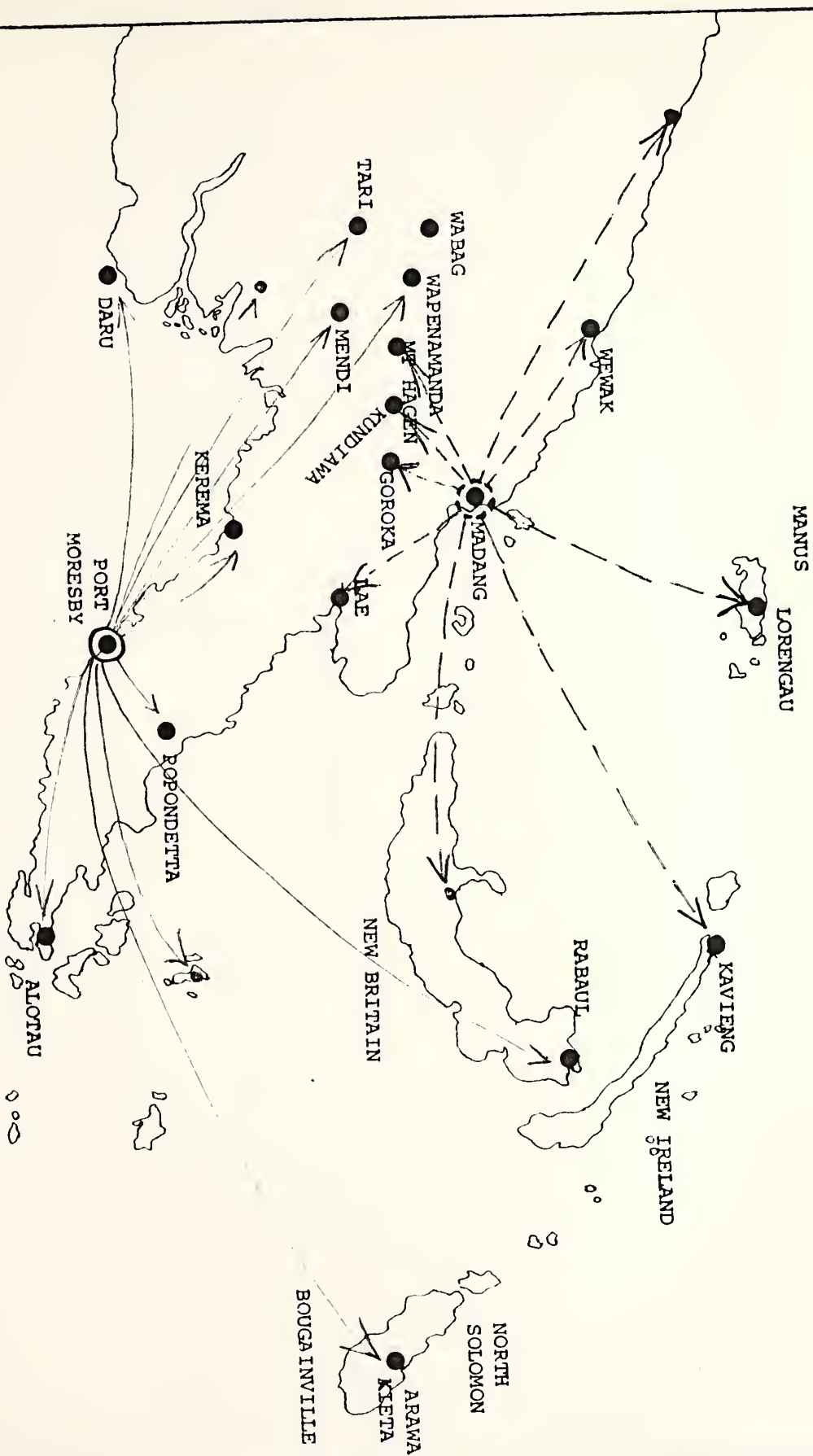
By the year 2,000 there should be National Specialist Ophthalmologists employed by Government — the Ophthalmologist at Port Moresby being Senior.

PAPUA NEW GUINEA



Each S.M.O. would do Mobile work to his own area. ? Train 4 or 5 "OPHTHALMIC HEALTH EXTENSION OFFICERS" to be responsible to each Regional S.M.O., to be stationed at the larger centres.

PAPUA NEW GUINEA



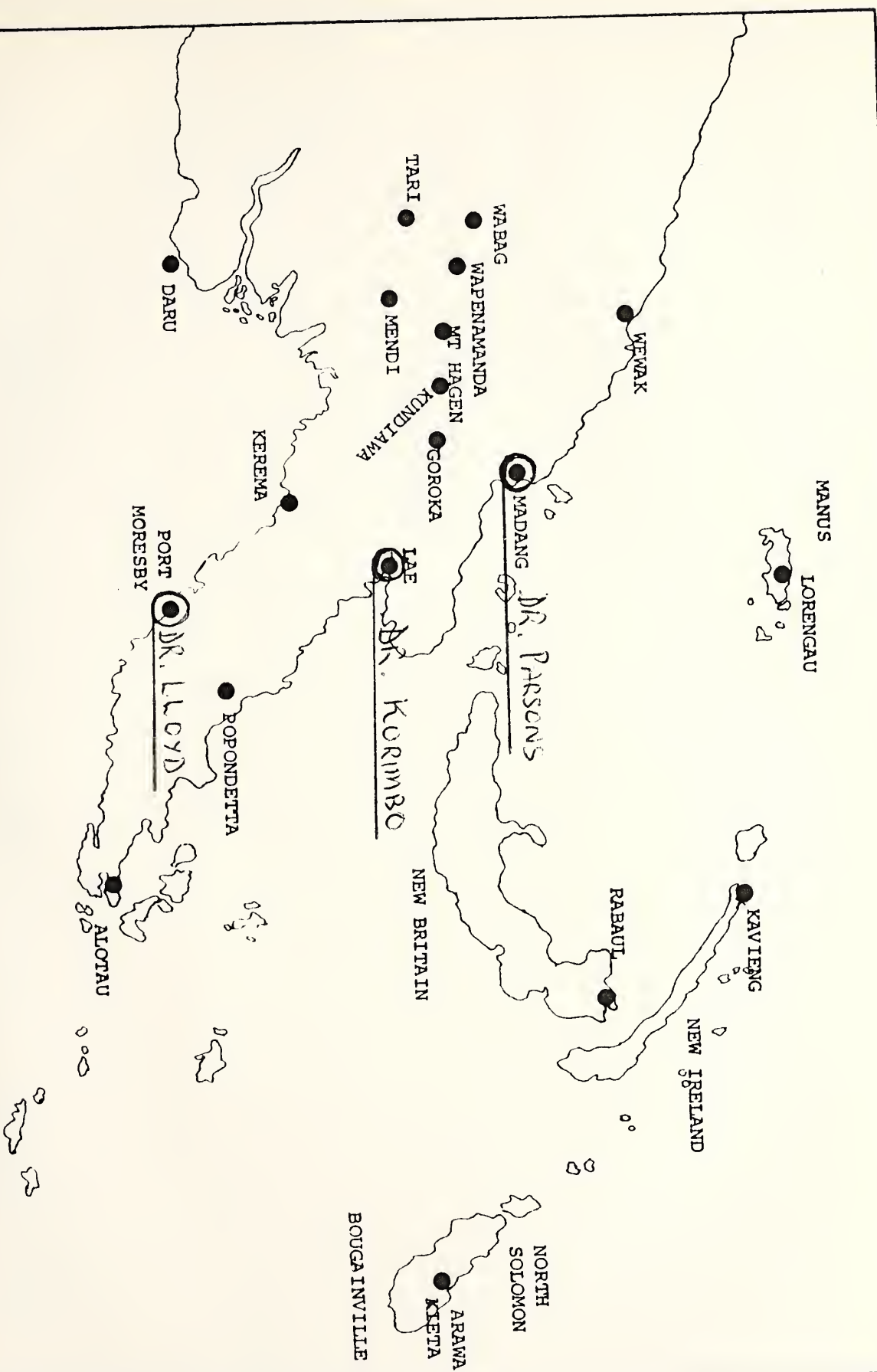
APRIL 1982 ; There are two registered

Specialist Epithelologists

DR. D. Lloyd ; Port Moresby ; Centres visited =

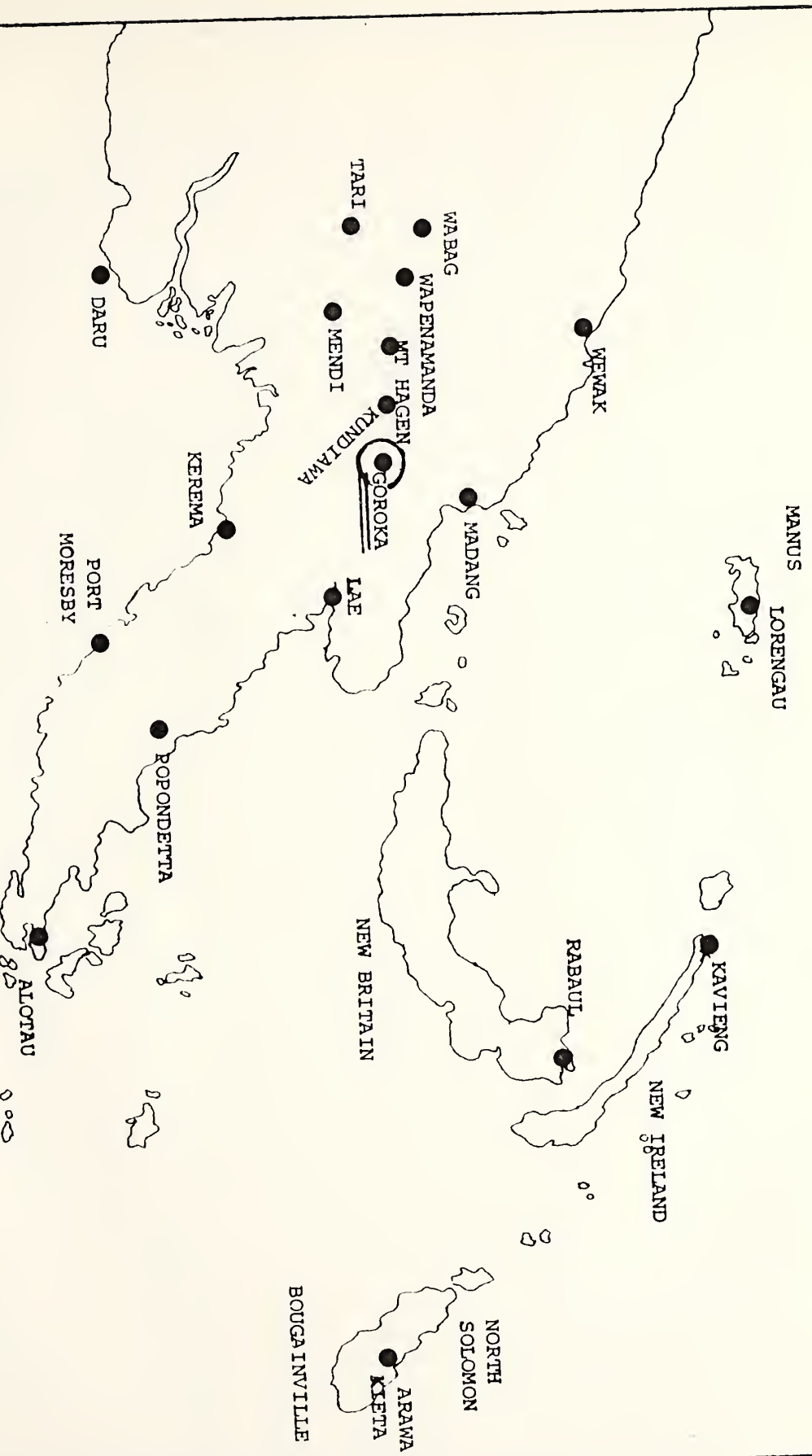
DR. G. Parsons ; Madang ; Centres visited =

PAPUA NEW GUINEA



DR. KORIMBO RETURNS TO LAE IN MID-1953. Position already exists. He is eligible to sit Master of Medicine Part II Cphk in Dec '52.

PAPUA NEW GUINEA



THE NEXT STEP :

Base a Government

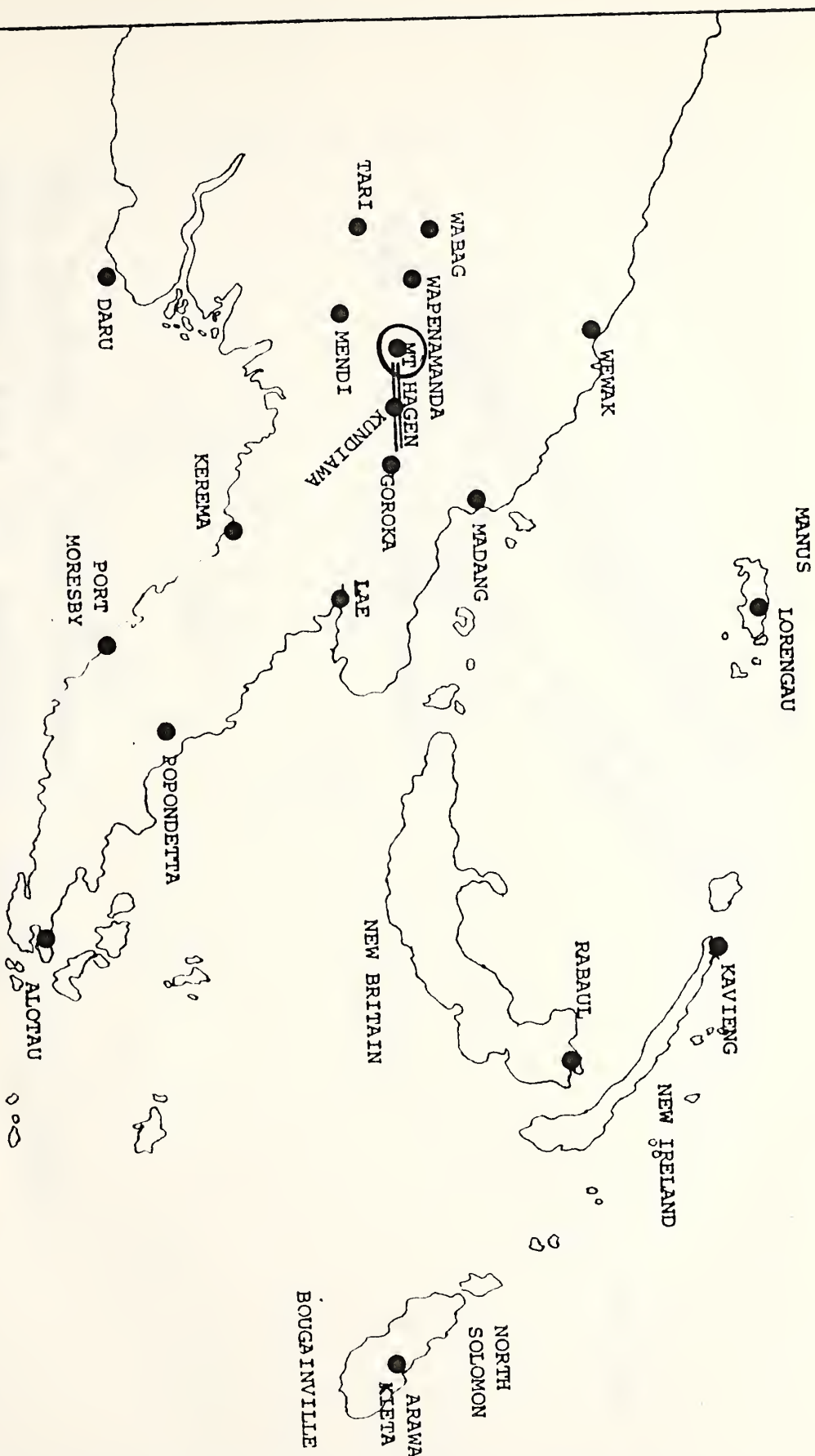
export S.M.O. at GOROKA

- ? 4 wheel drive Toyota

- ? by Air - ? Beth



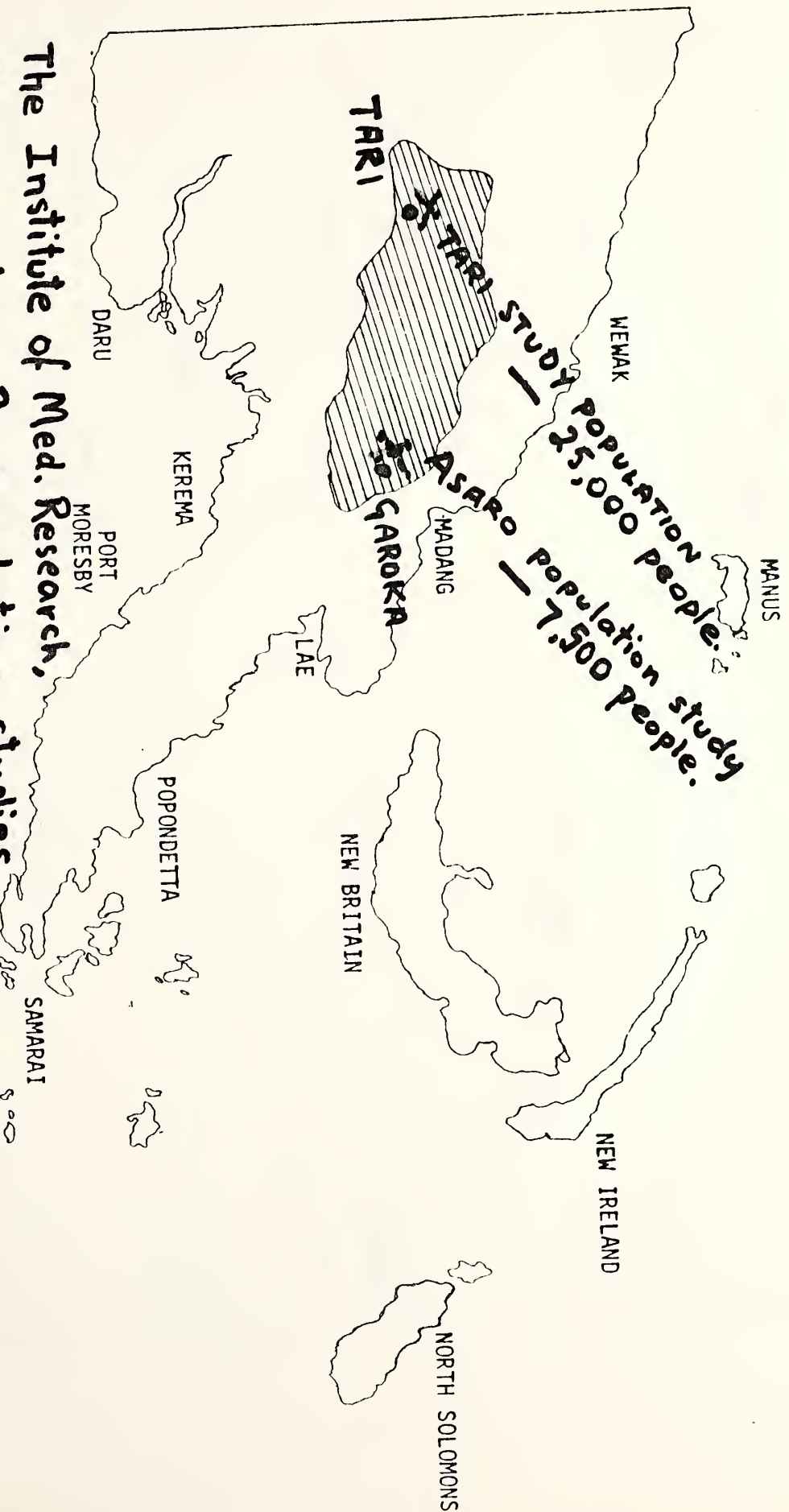
PAPUA NEW GUINEA



AND THE NEXT STEP :

In the fullness of

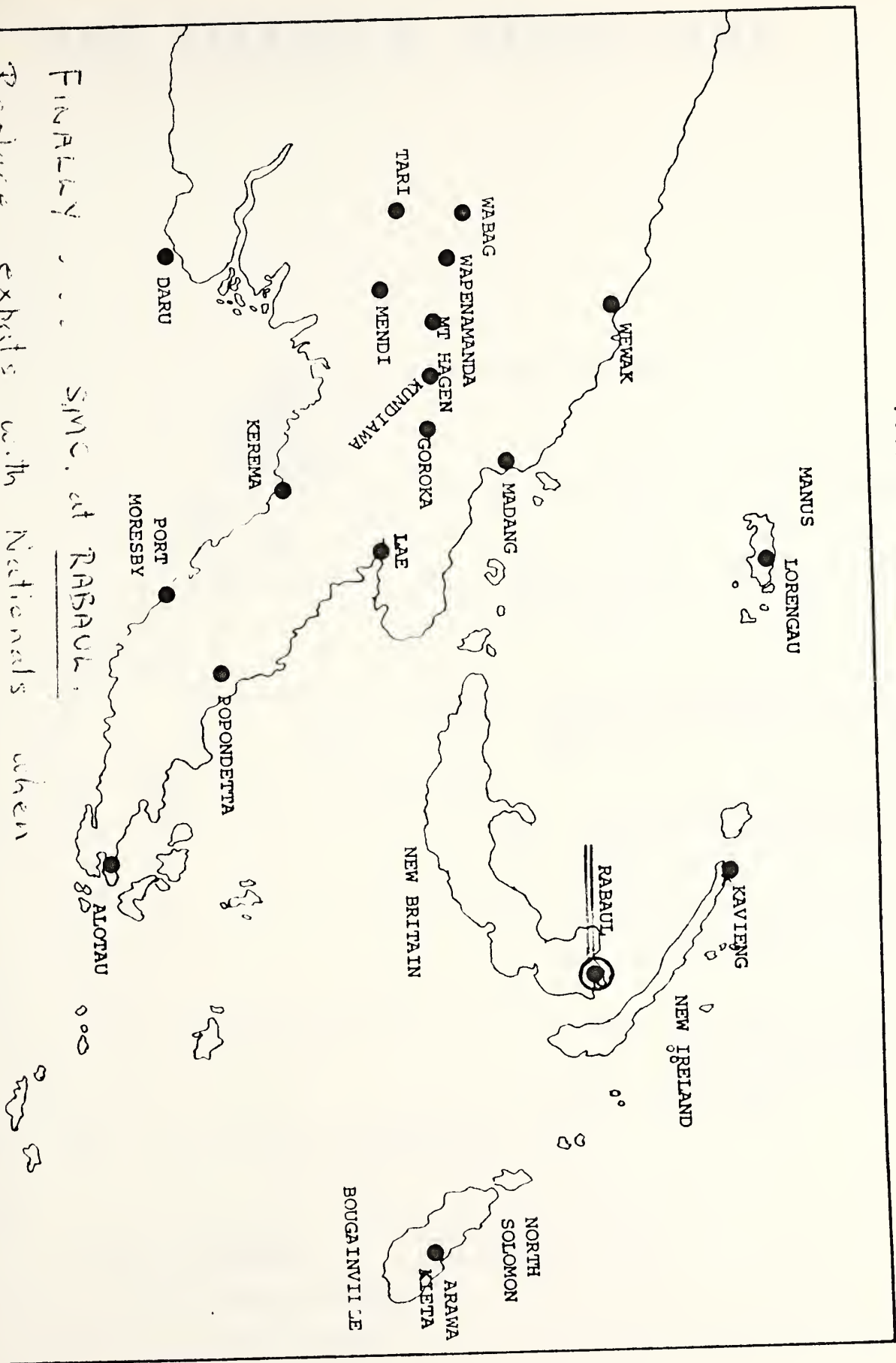
time, the next S.M.O. should probably be at Mt Hagen,
? population study first — "Experiments" etc



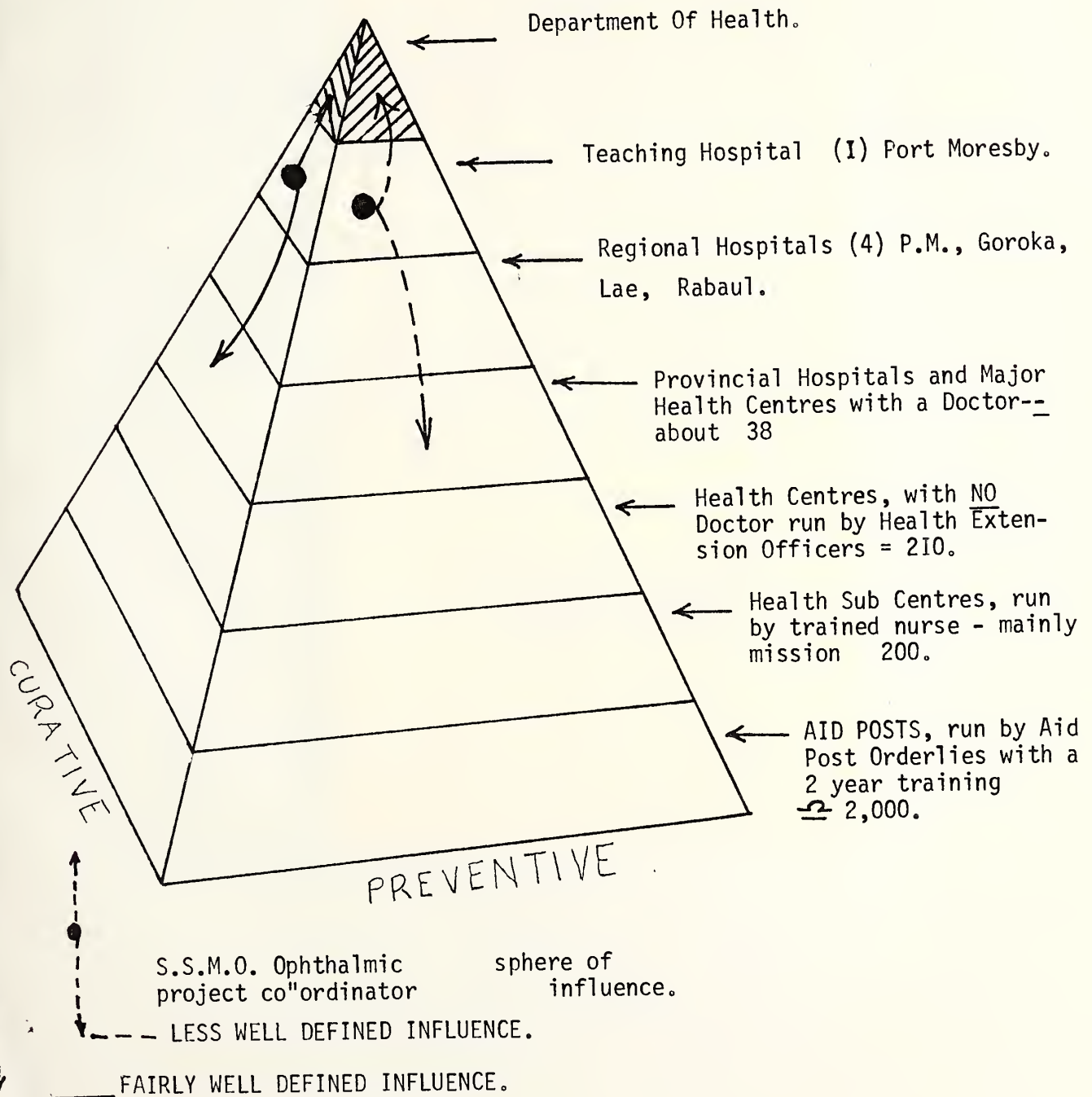
The Institute of Med. Research,
Goroka, has 2 population studies
being done at TARI (in Western Highlands), and
ASARO Valley, in Goroka (in Eastern Highlands).

* Ideal for ophthalmic survey, but...

PAPUA NEW GUINEA



P.N.G. PYRAMID OF HEALTH CARE.



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